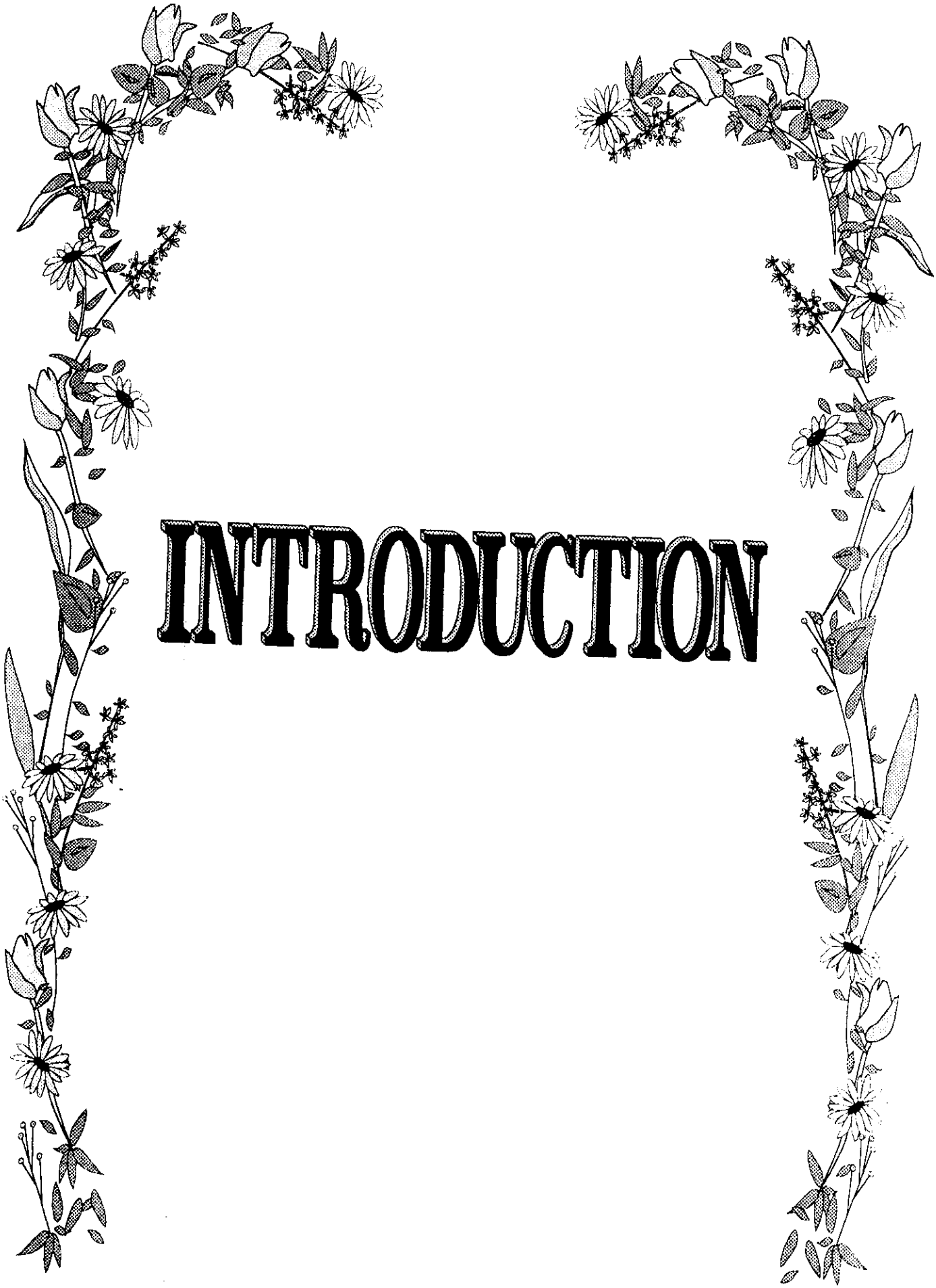

INTRODUCTION

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Cardiac valve replacement is performed on a routine basis at many centers, yet, the surgeons contineu to be confronted by variety of prosthetic and biological materials for this purpose. The number of models described and the continuing flow of modifications indicate that the ideal substitute has not yet developed, and therefore, the relative advantages of biological and artificial valves require continual re-assessment **(Schottenfeld et al., 1971)**.

Valve prosthesis of different construction may have different trumatic effects in the red blood cells, the hemolytic effect may be changed considerably even by modification of the same valve. The hemolysis may be sufficient to produce clinical hemolytic anemia or may cause a compensated hemolytic state **(Horsthkotte et al., 1983)**.

Increased destruction of red blood cells is the most common side effect following insertion of ball valve prosthesis. The turbulence of blood and direct contact between red cells and solid surfaces are the most important causes **(Rao et al., 1980)**. Significant hemolytic anemia may be an important determinant of prognosis, in some cases it may be a sign of leakage around the valve or ball variance demanding surgical intervention **(Horstkotte et al., 1983)**.

The tilting disc prosthesis are commonly used now because they are durable, not bulky in size and not associated with high rates of thromboembolism or hemolysis **(Sallam et al., 1974)**. the use of bioprosthetic heart valves in cardiovascular surgery has become quite popular over the past many years. Clinical hemolysis and hemolytic anemia have been considered as complications **(David et al., 1987)**.